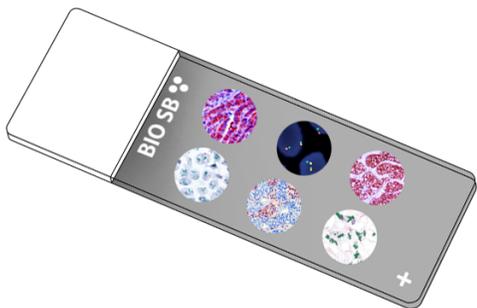


TCR Delta Control Slides



Intended Use

For In Vitro Diagnostic Use.

Summary and Explanation

T cell receptor delta locus (symbol TRD), also known as TCRD, is a protein that in humans is encoded by the TRD gene. It contributes the delta (δ) chain to the larger TCR protein (T-cell receptor). The T cell receptor or TCR is a molecule found on the surface of T lymphocytes (or T cells) that is responsible for recognizing antigens bound to major histocompatibility complex molecules. The TCR is composed of two different protein chains (that is, it is a heterodimer). In 95% of T cells, this consists of an alpha (α) and beta (β) chain, whereas in 5% of T cells this consists of gamma and delta (γ/δ) chains.

Deletions and mutations of the TRG and TRD gene have been implicated in a variety of cancers. Specifically, $\gamma\delta$ T cells may contribute to the immune response against several tumor types (lymphoma, myeloma, breast, colon, lung, ovary, and others). They act directly through mediation of cytotoxic activity and indirectly through the regulation of other cell types responsible for the anti-tumor response. The presence of $\gamma\delta$ T cells in the tumor microenvironment has been associated with poor prognosis in some cancers. While $\gamma\delta$ T cells have been implicated in T cell lymphomas, there is also a specific subtype known as $\gamma\delta$ T-cell lymphoma, characterized by the proliferation of those cells exclusively. This lymphoma can be quite aggressive with ulcerative plaques and subcutaneous nodules. In adenocarcinoma, polyclonal rearrangement of the TCR γ chain gene was significantly greater in N1 and N2 patients (using the TNM cancer staging system) than in N0 patients. Apart from carcinomas, TRG has also been correlated with hepatitis B virus. Specifically, $V\delta 2+$ T cell levels and TCR $\gamma\delta$ T cell cytotoxicity were significantly lower in patients with chronic HBV infections.

Presentation

Five slides of TCR Delta positive tissues, each mounted on Hydrophilic Plus Slides, provided in a plastic mailer.

<i>Catalog No.</i>	<i>Quantity</i>
BSB-9401-CS	5 slides
BSB 3650	5 slides

Storage Store at 20-25°C

Precautions

1. For professional users only. Results should be interpreted by a qualified medical professional.
2. Ensure proper handling procedures are used with this reagent.
3. Always wear personal protective equipment such as a laboratory coat, goggles, and gloves when handling reagents.
4. Dispose of unused solution with copious amounts of water.
5. Follow safety precautions of the heating device used for epitope retrieval (TintoRetriever Pressure Cooker or similar).
8. For additional safety information, refer to Safety Data Sheet for this product.
9. For complete recommendations for handling biological specimens, please refer to the CDC document, "Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories" (see References in this document).

Stability

This product is stable up to the expiration date on the product label.

Do not use after expiration date listed on package label.

IHC Protocol

1. Subject tissues to heat induced epitope retrieval (HIER) using a suitable retrieval solution such as ImmunoDNA Retriever with Citrate (BSB 0020-BSB 0023) or EDTA (BSB 0030-BSB 0033).

2. Any of three heating methods may be used:

a. TintoRetriever Pressure Cooker or Equivalent

Place tissues/slides in a staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA and place on trivet in the pressure cooker. Add 1-2 inches of distilled water to the pressure cooker and turn heat to high. Incubate for 15 minutes. Open and immediately transfer slides to room temperature.

b. TintoRetriever PT Module or Water Bath Method

Place tissues/slides in a pre-warmed staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA at 95°-99° C. Incubate for 30-60 minutes.

c. Conventional Steamer Method

Place tissues/slides in a pre-warmed staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA in a steamer, cover and steam for 30-60 minutes.

3. After heat treatment, transfer slides in ImmunoDNA Retriever with Citrate or EDTA to room temperature and let stand for 15-20 minutes.
4. For manual staining, perform antibody incubation at ambient temperature. For automated staining methods, perform antibody incubation according to instrument manufacturer's instructions.
5. Wash slides with ImmunoDNA washer or DI water.
6. Continue IHC staining protocol. Wash slides between each step with ImmunoDNA washer solution.

Abbreviated Immunohistochemical Protocol

Step	ImmunoDetector AP/HRP	PolyDetector AP/HRP	PolyDetector Plus HRP
Peroxidase/AP Blocker	5 min.	5 min.	5 min
Primary Antibody	30-60 min.	30-60 min.	30-60 min.
1st Step Detection	10 min.	30-45 min.	15 min.
2nd Step Detection	10 min.	Not Applicable	15 min.
Substrate- Chromogen	5-10 min.	5-10 min.	5-10 min.
Counterstain / Coverslip	Varies	Varies	Varies

Abbreviated IF Protocol

Step	Incubation Time
Rinse slides in IF wash buffer	5 minutes
Drain and wipe excess IF wash buffer off slide	
Conduct remaining steps in the dark	
Apply Antibody	30-60 minutes
Rinse with 3 changes of IF wash buffer	3x15 minutes each
Coverslip with IF mounting medium	

Mounting Protocols

For detailed instructions using biodegradable permanent mounting media such as XyGreen PermaMunter (BSB 0169-0174) or organic solvent based resin such as PermaMunter (BSB 0094-0097), refer to PI0174 or PI0097.

Product Limitations

Due to inherent variability present in immunohistochemical procedures (including fixation time of tissues, dilution factor of antibody, retrieval method utilized, and incubation time), optimal performance should be established through the use of positive and negative controls. Results should be interpreted by a qualified medical professional.

References

1. "Entrez Gene: TRD@ T cell receptor delta locus"
2. Erikson J, et al. "Locus of the alpha-chain of the T-cell receptor is split by chromosome translocation in T-cell leukemias". Science. 1985;229 (4715): 784-6
3. Lafont V, et al. "Plasticity of $\gamma\delta$ T Cells: Impact on the Anti-Tumor Response". Frontiers in Immunology. 2014; 5 (622): 622
4. Gammon B, et al. "Neurotropic Gamma-Delta T-Cell Lymphoma With CD30-Positive Lymphoid Infiltrates". The American Journal of Dermatopathology. 2016; 38 (9): e133-6
5. Castiglione F, et al. "TNM staging and T-cell receptor gamma expression in colon adenocarcinoma. Correlation with disease progression?". Tumori. 2008; 94 (3): 384-8
6. Chen M, et al. "Characteristics of circulating T cell receptor gamma-delta T cells from individuals chronically infected with hepatitis B virus (HBV): an association between V(delta)2 subtype and chronic HBV infection". The Journal of Infectious Diseases. 2008; 198 (11): 1643-50
7. U.S. Department of Health and Human Services: Centers for Disease Control and Prevention. Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories. Supplement / Vol. 61, January 6, 2012 <https://www.cdc.gov/mmwr/pdf/other/su6101.pdf>

Symbol Key / Légende des symboles/Erläuterung der Symbole

	QAdvis EAR AB Ideon Science Park Scheelevägen 17 SE-223 70 Lund, Sweden	 Storage Temperature Limites de température Zulässiger Temperaturbereich	 Manufacturer Fabricant Hersteller	 Catalog Number Référence du catalogue Bestellnummer
	In Vitro Diagnostic Medical Device Dispositif médical de diagnostic in vitro In-Vitro-Diagnostikum	 Read Instructions for Use Consulter les instructions d'utilisation Gebrauchsanweisung beachten	 Expiration Date Utiliser jusque Verwendbar bis	 Lot Number Code du lot Chargenbezeichnung